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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/904,177	07/12/2001	Hisanori Kawakami	9319S-000211	1176

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EXAMINER

ZEADE, BERTRAND

ART UNIT PAPER NUMBER

2875

DATE MAILED: 03/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/904,177

Applicant(s)

KAWAKAMI ET AL.

Examiner

Bertrand Zeade

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 13 December 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other:

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## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments with respect to claims 1-18 have been considered but are moot in view of the new ground(s) of rejection.

### *Claim Objections*

2. Claims 9, 16-18 are objected to because of the following informalities: In claim 9, lines 12 there is a typographic error. The limitation---light incidence plane--- has been repeatedly recorded. Appropriate correction is required.

### *Claim Rejections - 35 U.S.C. § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Lingual

(U.S. 5,579,134)

Lingual ('134) discloses a prismatic refracting optical array for liquid flat panel crystal display backlight having:

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Regarding claim 1, a light emitting device (16); and a lens or transparent glass plate (50) which receives the light emitting device (16), wherein the lens (50) is a lens having a property that directivity of exiting light in one direction is higher than directivity of exiting light in a direction perpendicular to the one direction; wherein the lens or transparent glass plate (50) has planar light incidence plane which receive the light emitted from the light emitting device (16) and a non-planar exiting plane which exits the light received from the light emitting device (16).

Regarding claim 3, the lens or transparent glass plate (50) has any one of a semicircular pillar shape, a prismatic shape, or a partial circular pillar shape having a Fresnel lens surface (see figs. 1-6).

Regarding claim 2, a light emitting device (16); and a lens or transparent glass (50) which receives the light emitting device (16), wherein the lens (50) has a planar light incidence plane which receives the light emitted from the light emitting device (16) and a non-planar light exiting plane which exits the light received from the light emitting device (16), the non-planar light exiting plane having a shape in which a height from the light incidence changes in direction (see figs.2-6), while a height from the light incidence plane is constant in a direction perpendicular to the one direction (col. 3, lines 56-65 and figs. 2-6).

Regarding claim 13, the lens or transparent glass (50) has any one of a semicircular pillar shape, a prismatic shape, or a partial circular pillar shape having a Fresnel lens surface (see figs. 2-6).

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5. Claims 4-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Saito (U.S. 5,890,791).

Saito discloses a light control sheet surface light source unit and LCD device having:

Regarding claim 4, a light source device ((11) which emits light; and a light guide (12) having a light receiving plane which receives light from the light source device (11) and a light exiting plane which exits the light (11); wherein the light source device (11) includes a light emitting device (11) and a lens (see col. 7, line 1-7) which receives the light emitted from the light emitting device (11); wherein the lens (see col. 7, line 1-7) has a property that provides directivity of exiting light in one direction that is higher than directivity of exiting light in a direction perpendicular to the one direction (col.7, lines 19-65), the one direction being set to a height direction of the light guide (12), and the perpendicular direction being set to a width direction of the light guide (see figs.1-15, 18-23b).

Regarding claim 6, the lens has any one of a semicircular pillar shape, a prismatic shape, or a partial circular pillar shape having a Fresnel lens surface (see figs. 2 and 18).

Regarding claim 7, the lens is provided adjacent the light receiving plane of the light guide (12), for condensing light (11).

Regarding claim 5, a light source device ((11) which emits light; and a light guide (12) having receiving plane which receives and a light exiting plane which exits the light (11); wherein the light source device (11) includes a light emitting device or transmission surface (12a) and a

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lens which receives the light emitted from the emitting device (see fig. 16); wherein the lens has a planar and no-planar light exiting plane (see abstract) having a shape in which a height from the light incidence plane changes in one direction, while a height from the light incident plane is constant in a direction perpendicular to the one direction (col.7, lines 19-65), the one direction being set to a height direction of the light guide (12), and the perpendicular direction in being set to a width direction of the light guide (see figs.1-15, 18-23b).

Regarding claim 14, the lens has any one of a semicircular pillar shape, a prismatic shape, or a partial circular pillar shape having a Fresnel lens surface (see figs. 2 and 18).

Regarding claim 15, the lens is provided on the light receiving plane of the light guide (12), for condensing light (11).

6. Claims 8, 10-12, 9, 16-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Shinohara et al. (U.S.6,231,200).

Shinohara ('200) discloses a surface light source device, elements therefor and apparatus using the same having:

Regarding claim 8, a light crystal panel including a liquid crystal or light conducting plate (52) held between a pair of substrates (see fig. 68); and an illumination device (102) for supplying light (54) to the LC panel (104); wherein the illumination device (102) includes a light source device (54) which emits light, and a light guide or conducting plate (52) having a light receiving plane which receives light from the light source device (54) includes a light emitting device (54/102), and a lens (12) which receives the light emitted from the light emitting device (54);

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wherein the lens (12/103) has planar light incidence plane and a non-planar light exiting plane having a shape in which a height from the light incidence plane changes in one direction, while a height from the incidence plane is constant in a direction perpendicular to the one direction (col. 9, lines 11-27), the one direction being set to a height direction of the light guide (52), and the perpendicular direction being set to a width direction of the light guide (52), (see figs. 13, 28-30, 62-65).

Regarding claim 10, the lens (103) has any one of a semicircular pillar shape, a prismatic shape, or a partial circular pillar shape having a Fresnel lens surface (see figs. 69-72).

Regarding claim 11, the lens (103) is provided on the light receiving plane of the light guide (52), for condensing light (54).

Regarding claim 9, a light crystal panel including a liquid crystal or light conducting plate (52) held between a pair of substrates (see fig. 68); and an illumination device (102) for supplying light to the LC panel (104); wherein the illumination device (102) includes a light source device (54) which emits light, and a light guide or conducting plate (52) which receives light from the light source device (102) by a light receiving plane and causes light to exit from a light exiting plane (see figs. 65-68); and the light source device (102) includes a light emitting device or reflecting plate (81); wherein the lens (103) has a planar light incidence plane and nonplanar light exiting plane having a shape in which a height from the light incidence plane changes in one direction, while a height is constant in a direction perpendicular to the one direction (col. 9, lines 11-27), the one direction being set to a height direction of the light guide or light conducting plate

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(52), and the perpendicular direction being set to a width direction of the light guide (see figs. 13, 28-30, 62-65).

Regarding claim 16, the lens (103) has any one of a semicircular pillar shape, a prismatic shape, or a partial circular pillar shape having a Fresnel lens surface (see figs. 70-72).

Regarding claim 17, the lens (103) is provided on the light receiving plane of the light guide (52), for condensing light (54).

*Claim Rejections - 35 U.S.C. § 103*

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 12 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Shinohara ('200) in view of Kawachi et al. (U.S.6,220,741)

Regarding claim 12 and 18, Shinohara ('200) does not disclose a control circuit.

Kawachi ('741) discloses a flat panel display device having:

Regarding claim 12, a liquid crystal device (30), and a control circuit (70) for controlling operation of the LC device (30), wherein the LC device includes a LC device as in claim 8.

Regarding claim 18, a liquid crystal device (30), and a control circuit (70) for controlling operation of the LC device (30), wherein the LC device includes a LC device as in claim 9.



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It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the surface light source device, elements therefor and apparatus using the same of Shinohara ('200) with the control circuit disclosed by Kawachi ('741) for benefit and advantage to provide a flat panel display device having a driving circuit closed to the tube light source, because the control circuit board is connected to the display panel through a flexible printed circuit board to control the LCD panel.

*Contact information*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bertrand Zeade whose telephone number is 703-308-6084. The examiner can normally be reached on Monday-Friday from 8:00 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea, can be reached on (703) 305-4939. The fax phone number for the organization where this application or proceeding is assigned is 703-305-3432.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Examiner: Bertrand Zeade

February 28, 2003.

  
Sandra O'Shea  
Supervisory Patent Examiner  
Technology Center 2800